CLASS COPY! COMPLETE WORK IN NOTEBOOK. FAILURE TO DO SO WILL RESULT IN A LASALLE

CW 88: Graphs of Linear Functions

**Geometry**

**Bridge Situation**

A group of workers are painting a bridge.

1. Look at this situation. Sketch a graph to show how f(x) will depend on x.
2. What happens as the number of workers increases?
3. Create a potential equation to model .
4. **Plumber Situation**

A plumber charges a fixed fee for coming to your house, then charges a fixed amount per hour on top of this.

1. Sketch a graph to show how c(t) will depend on t.
2. Create a potential equation to model c(t).
3. Annotate your equation to explain the key features and what they mean.
4. **Cyclist situation**

A cyclist travels along a direct route from Chicago, IL to Gary IN.

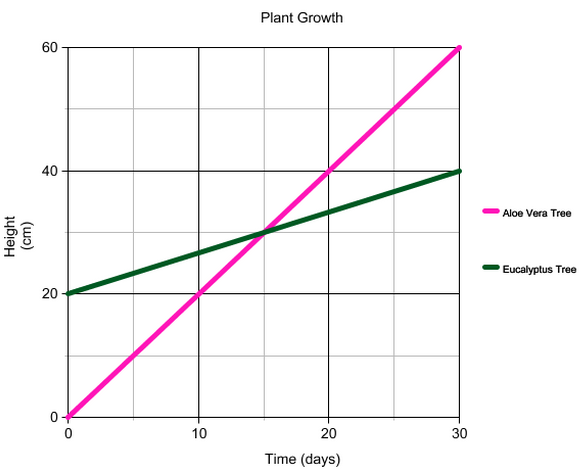
1. Sketch a graph to show how c(g) will depend on t.
2. Create a potential equation to model c(g).
3. Annotate your equation to explain the key features and what they mean.
4. Compare your equation in problem 2, to the equation for problem 3. What are the major differences?
5. **Movie Subscription Situation**

You get two movies free, but then you get charged at a fixed rate per movie.

1. Sketch a graph to show how d(v) will depend on t.
2. Create a potential equation to model d(v).
3. Annotate your equation to explain the key features and what they mean.
4. **Internet Café Situation**

An Internet café charges a fixed amount per minute to use the Internet.

1. Sketch a graph to show how will depend on t.
2. Create a potential equation to model
3. Annotate your equation to explain the key features and what they mean.
4. Based off your equation, how many minutes will $8 buy? Does the cost make sense? Why?
5. **Comparing Trees Situation**

Two trees, an Aloe Vera tree and a Eucalyptus tree are growing in a jungle.

* 1. How fast is the Eucalyptus tree growing?
  2. How fast is the Aloe Vera tree growing?
  3. Write an equation for the growth of the Aloe Vera tree.
  4. Write an equation for the growth of the Eucalyptus tree.
  5. How many days will it take for the Aloe Vera tree to reach 100 feet? The Eucalyptus tree?
  6. After day 15, will the two trees ever be the same height again? Explain your answer.

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_\_\_

HW 88: Linear Functions

**Geometry**

**COMPLETE ALL PROBLEMS/GRAPHS/WORK IN NOTEBOOK. FAILURE TO DO SO WILL RESULT IN A LASALLE.**

1. Graph the set of ordered pairs Determine whether the relationship is a linear function. Explain how you know.
2. You can make 5 gallons of liquid fertilizer by mixing 8 teaspoons of powdered fertilizer with water. Represent the relationship between the teaspoons of powder used and the gallons of fertilizer made using a table, an equation, and a graph.
3. Determine what car repair shop will give you the best deal to fix your car.

# FIX-IT-UP REPAIR

Bring your vehicle in today! We know how to fix ‘em all! The parts for new brakes will be $130 and we charge just $52 per hour for labor. You won’t regret choosing FIX-IT-UP because we’re the experts around town!

## Brakes ‘N More

Best deal in all of Chicago. We won’t break your pocketbook! You can get the parts for your new brakes for only $70 and we only charge $65 per hour for labor! Come on in and we’ll even serve you coffee while you wait!

1. Create a table to show the cost of each company when using the following number of labor hours: 0, 2, 4, 6, 8. Then, determine the linear equation to represent the relationship.
2. Graph the two lines (make YOUR OWN scale – remember, labor hours should be on the x-axis, and cost on the y-axis. The interval must be the same!):
3. What is the approximate number of labor hours for which both car repair shops charge the same amount?
4. What shop would be a better deal if your car only requires 2 labor hours? Explain your reasoning.
5. What shop would be a better deal if your car requires 10 labor hours? Explain your reasoning.